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Siting Issues
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Among the states, Wyoming is first in coal production, fifth in natural gas production and seventh in oil production. Wyoming is a net exporter to the rest of the country for each of these energy products. Infrastructure to move energy out of Wyoming is essential to the economic well being of not only Wyoming but to the rest of the country.

The State of Wyoming has long realized and acted on the necessity to maintain and expand the infrastructure to move Wyoming energy. The Wyoming Pipeline Authority (the “WPA”) was created by the State of Wyoming to encourage the development of natural gas transmission capacity out of Wyoming. As a consequence of WPA support, the original Kern River Transmission system was built in 1993 and Wyoming established a permanent presence as a reliable natural gas supplier to California and the southwest US. Beginning in 2003 the WPA began to address a widening gap between the price of natural gas produced in Wyoming and gas produced elsewhere in the US. That price gap was caused by a lack of pipeline capacity to export growing Wyoming natural gas production to the rest of the country. That price differential directly harmed and restrained natural gas resource development, employment and tax revenues in Wyoming.

Figure 1 below, depicts the monthly difference in the price of natural gas produced in Wyoming versus the price for natural gas in Louisiana in that same month.

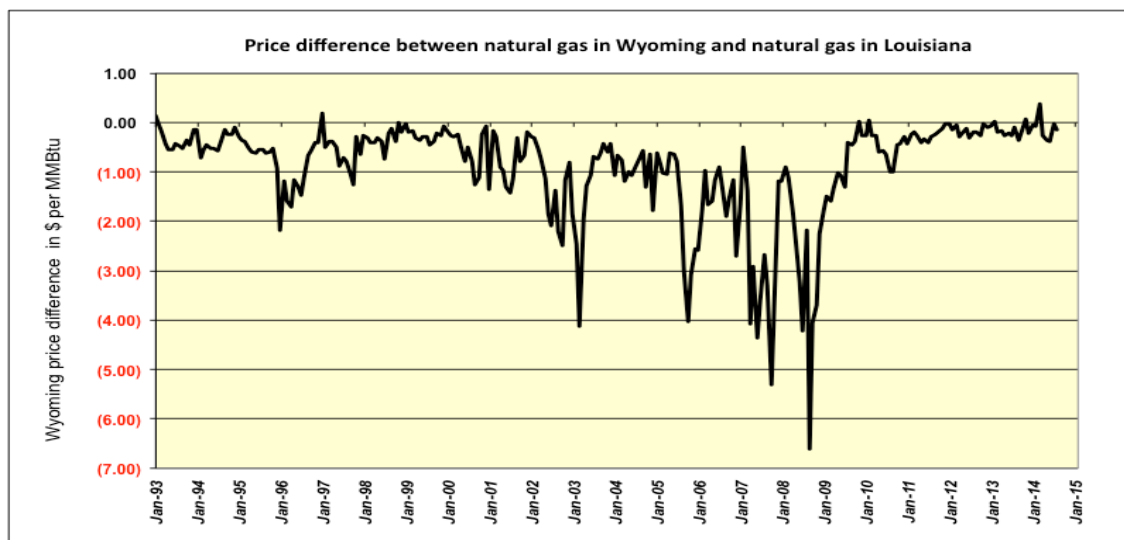


Figure 1. Representative price for natural gas in Wyoming less the final settlement price for the NYMEX natural gas futures contract for each month (with standard delivery available at Henry Hub, Louisiana). Source NYMEX and Platts historical data.

When the monthly price differences in Figure 1 are applied to the corresponding monthly natural gas production in Wyoming over the period of 1993 to the present, the resulting calculation sets the lost production value in Wyoming at approximately 32 billion dollars. The State of Wyoming shared the pain of these reduced prices through lost severance and ad valorem tax collections and through lost royalty value from state lands and from the state share of federal royalties. Those lost revenues to the State were approximately 5 billion dollars. Within Figure 1, the timing of

additions to pipeline capacity can be readily identified by periods of improved relative prices. As subsequent rates of production grew, the infrastructure once again became inadequate and prices again suffered. Fortunately for the last several years, adequate pipeline capacity to move natural gas out of Wyoming has prevailed and prices have maintained reasonable parity with the rest of the country.

Growing natural gas pipeline infrastructure has been a success story for Wyoming. However, the overall mission of the WPA – to advance infrastructure to maximize the value of Wyoming natural resources to improve employment and tax revenues within Wyoming remains and there are other commodities to consider.

In 2009, the WPA and the Enhanced Oil Recovery Institute at the University of Wyoming jointly developed a hypothetical carbon dioxide pipeline grid that would serve the anticipated future demand to move carbon dioxide from a variety of sources to destinations comprised of enhanced oil recovery opportunities and sequestration sites. One of the goals of this effort was to provide a basis for policy discussions and planning for an effective carbon dioxide pipeline grid. During the summer of 2011, the Worland Field Office of the United States Bureau of Land Management (“BLM”) completed a draft revised Resource Management Plan and Draft Environmental Impact Statement for the Bighorn Basin area of Wyoming (the “Draft Bighorn Basin RMP”). The Draft Bighorn Basin RMP did not include any provision for right-of-way corridors for carbon dioxide pipelines to support associated enhanced oil recovery operations in the Bighorn Basin. The WPA and others provided comments to the Draft Bighorn Basin RMP regarding this oversight. Subsequently, the Lander Field Office of the BLM issued a draft resource management plan revision. The draft revision for that field office contained proposed right-of-way corridors in that planning area that failed to match up at the boundaries of the Lander Field Office with right-of-way corridors in adjoining BLM field office planning areas.

Based upon the observations of the Draft Bighorn Basin RMP revision and the draft of the Lander RMP revision, the need to address constraints on development of CO₂ pipelines was identified as a significant concern by the Office of the Governor of Wyoming. An investigation of the pipeline corridors in other Wyoming BLM field offices was conducted. Figures 2 and 3 below each depict a portion of southwestern Wyoming. The background colors in each figure represent the boundaries of various BLM field offices in that area of Wyoming. Figure 2 includes existing pipelines. In Figure 3, the pipelines are removed and only the various BLM field offices remain along with the right-of-way corridors in the current resource management plans of each of the field offices.

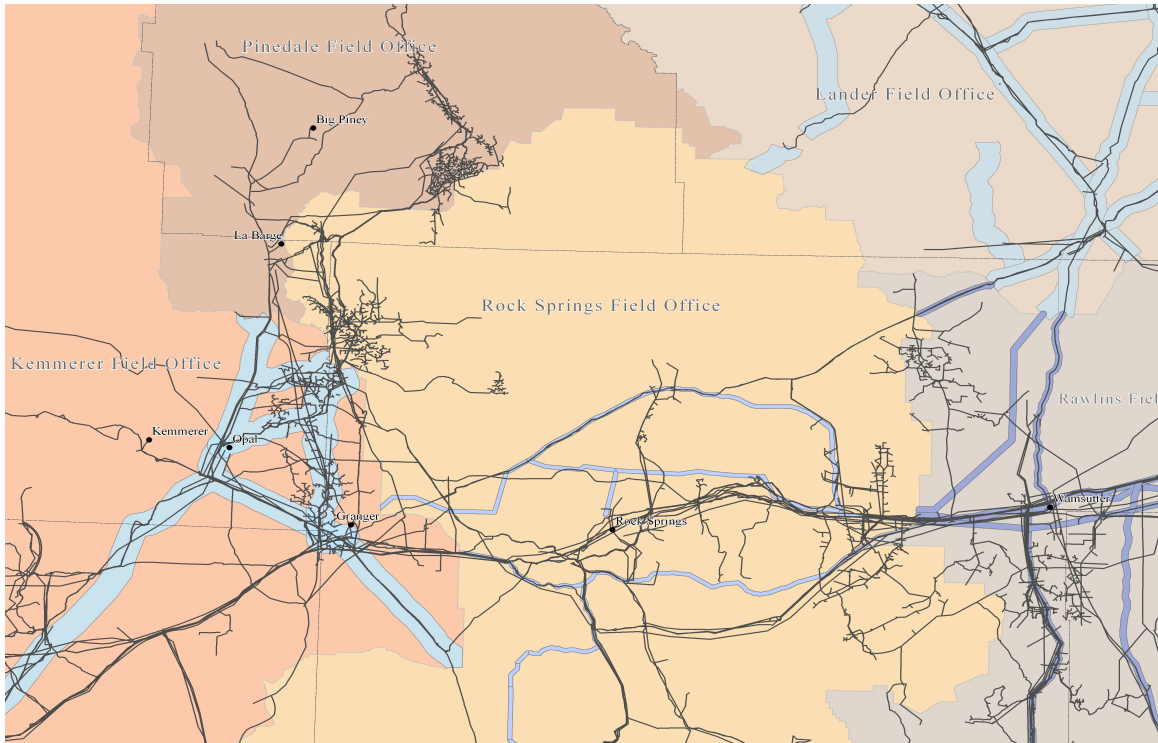


Figure 2. BLM Field Office areas in SW Wyoming, existing RMP right-of-way corridors and existing pipeline infrastructure. Source: BLM and WPA records.

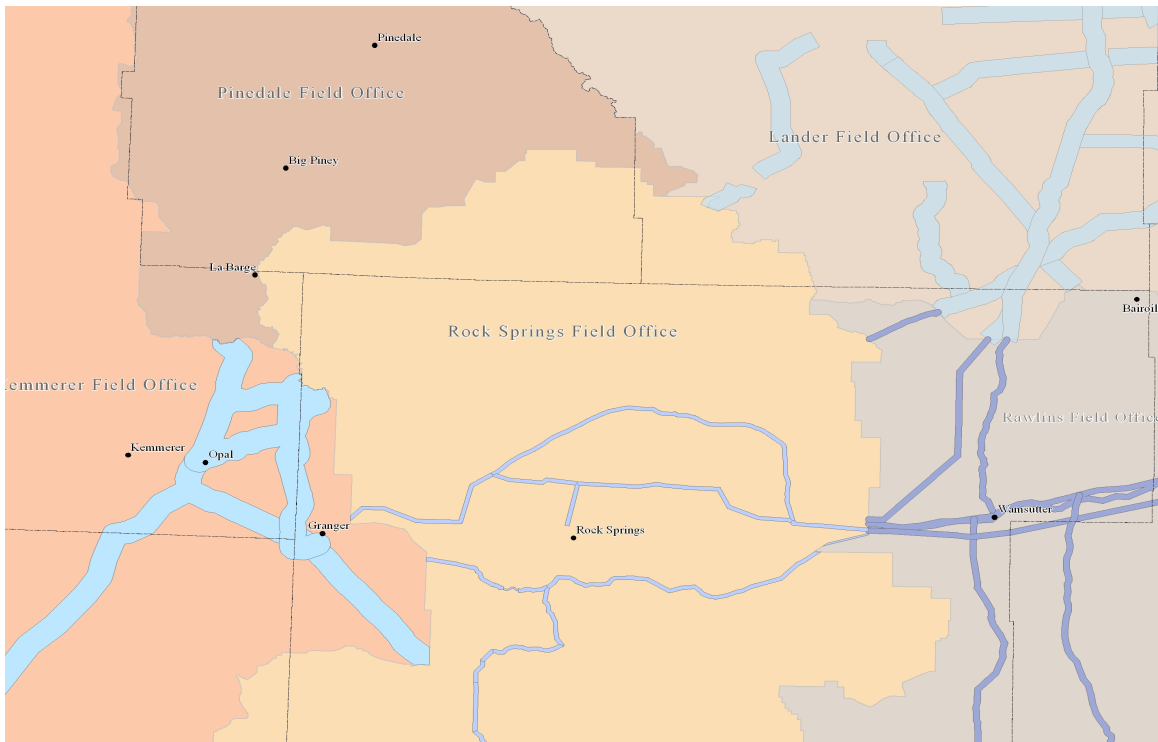


Figure 3. BLM Field Office areas in SW Wyoming and existing RMP right-of-way corridors. Source: BLM.

The corridors often fail to match between field offices and in some cases are completely disconnected from any other corridor.

The mismatched corridors represent an impediment to the efficient and thoughtful development of pipeline infrastructure in Wyoming. One approach to correcting these mismatched corridors is to address the deficiencies in each BLM field office resource management plan as those individual plans cycle through periodic revisions. However, this practice perpetuates analysis of reasonably foreseeable development at just a single field office level.

The need for Wyoming to address the need for coherent corridors across federal lands is recognized in Leading the Charge – Wyoming’s Action Plan for Energy, Environment and Economy developed by the Office of Wyoming Governor Matt Mead. The Wyoming Action Plan includes specific steps and initiatives the State of Wyoming is undertaking to support the responsible, timely and efficient development of Wyoming energy resources. One of the initiatives in the Wyoming Action Plan is an application by the WPA to the BLM for a series of statewide pipeline corridors sufficient to connect foreseeable sources of carbon dioxide to foreseeable destinations including existing oil fields appropriate for use in enhanced oil recovery.

Quoting from the June 12, 2014 press release from the Office of the Governor,

“This plan identifies appropriate routes for pipelines. It establishes corridors, reduces delays and avoids a piecemeal approach to pipelines. This benefits everybody - energy producers, agriculture and environmental stewards,” Governor Mead said. The Bureau of Land Management application seeks to establish 1,150 miles of pipeline corridors on federal lands in Wyoming. The project called the Wyoming Pipeline Corridor Initiative (WPCI) would cross federal lands in most of Wyoming’s counties and involve nine BLM field offices.

Individual project proponents would construct and operate pipelines using the approved corridors. It is expected that some of the corridors would be available as soon as approvals are issued. Permitting will involve public review and input. One of the primary purposes of the WPCI is to facilitate enhanced oil recovery (EOR) in Wyoming.

“Oil production in Wyoming has been declining for several decades. This hurts local economies, means fewer jobs and results in less revenue to the state,” Governor Mead said. “Wyoming has large, economically significant oil reserves that are good candidates for enhanced oil recovery using CO₂.”

Currently, CO₂ is being used in five Wyoming fields to assist in additional oil recovery. The oil being produced with the help of CO₂ is not recoverable using conventional production techniques.

The U.S. Environmental Protection Agency recently proposed a rule to reduce CO₂ emissions from power plants. Governor Mead said, “A pre-approved pipeline network links

depleted oil fields with CO2 sources and increases the viability of enhanced oil recovery. With this plan Wyoming can assist industry, make CO2 from power plants an asset, reduce overall CO2 emissions and increase oil recovery.”

The application is part of a multi-year collaboration between the State of Wyoming, BLM and other federal agencies. Wyoming’s plan addresses future, long-term pipeline corridor needs in the state.

Figure 6 represents the corridors identified and included in the recently filed application by the WPA to the BLM.

